Claims 1-39 have been cancelled.

40. (Currently amended) A method of wireless connectivity comprising:

      receiving a broadcast beacon at a client;

      the client deriving information from the beacon, the information allowing the client to identify all other clients in a multi-hop path from the client to a server[.]; further comprising the client;

      storing every beacon received;

      designating one path identified by one beacon as the optimal path;

      setting a default gateway as identified in the optimal path; and

      rebroadcasting only the beacon representing the optimal path.

41. (Previously Presented) The method of wireless connectivity of claim 40, wherein the information identifying the other clients comprises addresses of the other clients.

42. (Previously Presented) The method of wireless connectivity of claim 40, wherein beacons are originated and broadcast by the server, and are modified and broadcast by clients.

43. (Previously Presented) The method of wireless connectivity of claim 40, wherein the client receives a plurality of broadcast beacons, modifies at least one of the received beacons, and transmits the at least one modified beacon.

44. (Previously Presented) The method of wireless connectivity of claim 42, wherein modified beacons comprise addresses of clients in the path, and an address of the server.

45. (Cancelled) The method of claim 40, comprising:

      storing every beacon received;

      designating one path identified by one beacon as the optimal path;

setting a default gateway as identified in the optimal path; and

rebroadcasting only the beacon representing the optimal path.

46. (Previously Presented) The method of claim 42, wherein the beacon broadcast by the server includes a hop-count set to an initial value, the method further comprising:

each client that receives the beacon broadcasting a modified beacon with the hop-count incremented by one;

such that each client receiving any beacon knows a path to reach the server and the number of hops in this path.

47. (Previously Presented) The method of claim 40 further comprising:

each client that receives the broadcast beacon rebroadcasting the beacon with an identifier of the client added to the beacon;

such that any client receiving any beacon has a complete path to the server.

48. (Previously Presented) The method of claim 47, wherein the identifier of the client is a client address.

49. (Currently amended) ~~The method of claim 40,~~ A method of wireless connectivity comprising:

receiving a broadcast beacon at a client;

the client deriving information from the beacon, the information allowing the client to identify all other clients in a multi-hop path from the client to a server; wherein the broadcast beacon includes a sequence number representing a current routing cycle.

50. (Previously Presented) The method of claim 49, further comprising upon a client receiving a beacon, determining if a beacon was previously received for this routing cycle; and

if no beacon was previously received for the routing cycle, storing a routing path to the server from the beacon.

51. (Previously Presented) The method of claim 49, further comprising, if the beacon was previously received for the routing cycle:

determining if this beacon has a higher sequence number than a prior beacon for this routing cycle, and if so,

storing the current beacon in memory.

52. (Previously Presented) The method of claim 49, further comprising,

upon a client receiving a beacon, determining if a currently received beacon represents an optimal path for this routing cycle; and

if the current beacon represents the optimal path, identifying a default gateway in the current beacon, and storing the default gateway.

53. (Previously Presented) The method of claim 44, further comprising:

determining if there is a previous default gateway identified; and

deleting the previous default gateway from memory.

54. (Currently amended) The method of claim 40, further comprising, for each client:

collecting all a plurality of beacons; and

selecting a single beacon to broadcast.

55. (Previously Presented) The method of claim 54, wherein selecting a beacon comprises:

identifying a number of hops between the server and the client for each beacon; and

selecting the beacon with the lowest number of hops.

56. (Previously Presented) The method of claim 54, wherein selecting a beacon comprises:

identifying a traffic monitoring code (TMC) for each of the beacons; and

selecting the beacon with the lowest TMC.

57. (Previously Presented) The method of claim 54, wherein selecting a beacon comprises:

identifying a beacon with a highest quality; and

selecting the beacon with the highest quality.

58. (Previously Presented) The method of claim 57, wherein the highest quality is a best signal-to-noise ratio.

59. (Previously Presented) The method of claim 57, wherein the highest quality is based on most back end bandwidth capacity at the server.

60. (Previously Presented) The method of claim 57, wherein the highest quality is based on a lowest level of traffic being handled by the server.

61. (Previously Presented) The method of claim 57, wherein the highest quality is based on a reliability of the beacon.

62. (Previously Presented) The method of claim 61, wherein the reliability is determined by a number of times the beacon is received compared to a number of times the beacon was broadcast.

63. (Previously Presented) The method of claim 40, further comprising:

sending a reverse beacon to the server; and

constructing a client tree in the server, wherein the server has a path to all clients.

64. (Canceled)

65. (Cancel)

66. (Currently amended) A method of generating a routing path for a system including a
    server and a plurality of clients, the method comprising each client:

    receiving a beacon from <u>one of</u> the server <u>or another client, wherein the beacon</u>
    <u>includes a sequence number representing a current routing cycle</u>;

    the client deriving information from the beacon, the information allowing the
    client to identify all other clients in a multi-hop path from the client to a server;

    rebroadcasting one beacon received from an upstream node; and

    broadcasting a reverse beacon upstream, the reverse beacon being addressed to
    the known upstream node, the reverse beacon used by the server and each client to set up
    a routing table.

67. (Previously Presented) The method of claim 66, wherein a routing table in a particular
    client includes a default gateway and a path to each client downstream from the
    particular client.

68. (Previously Presented) The method of claim 66, further comprising the server
    broadcasting a dummy reverse beacon to initiate the reverse beacon cycle.

69. (Previously Presented) The method of claim 66, further comprising each client
    aggregating the reverse beacons received from downstream clients, and sending a
    single reverse beacon including the aggregated information.

70. (Previously Presented) The method of claim 66, wherein

    receiving a reverse beacon broadcast by a client's default gateway triggers the
    client to start a timer to send the reverse beacon.

71. (Currently amended) The method of claim 66,

    further comprising, if a client receives multiple beacons:

    evaluating a link quality of each of the beacons received; and

    selecting ~~the~~ <u>a</u> default gateway based on the beacon with the best link quality and
    rebroadcasting that beacon.

72. (Previously Presented) The method of claim 71, wherein the link quality comprises reliability of the beacon.

73. (Previously Presented) The method of claim 71, wherein the link quality includes information about the back end bandwidth capacity of the server.

74. (Previously Presented) The method of claim 71, wherein the link quality includes information about the traffic being handled by the server.

75. (Previously Presented) The method of claim 66, wherein a connection between the server and the client is a wireless connection.

76. (Previously Presented) The method of claim 66, wherein a connection between the server and the client is chosen from among the following types of connections: a wireless connection, a wired connection, and a switched connection.

77. (Previously Presented) The method of claim 66,

further comprising the client:

receiving a plurality of beacons from a plurality of servers; and

selecting one of the plurality of beacons, and setting the server associated with the selected beacon as its preferred server;

thereby self-selecting to belong in a cluster associated with the preferred server.

78. (Previously Presented) The method of claim 77, further comprising the client:

moving outside the cluster;

upon receiving a beacon from a new cluster, the client setting the server associated with the new beacon and the new cluster as its preferred server.

79. (Previously Presented) The method of claim 78, further comprising:

expiring a routing table including a previous preferred server and previous default gateway.